

TWO NEW STATE NATURAL AREA PRESERVES

In November, DCR acquired the Dendron Swamp Natural Area Preserve along the Blackwater River in Sussex County. This 160 acre preserve supports an exemplary blackwater swamp with ancient bald cypress and tupelo trees believed to be 300 to 500 years old. Parkers Marsh, a 759 acre exemplary Chesapeake Bay beach, dune and marsh system in Accomack County, was dedicated as the 28th State Natural Area Preserve. There were two new additions to existing preserves in December, a 20 acre addition to the Pedlar Hills Natural Area Preserve in Montgomery County and a 160 acre addition of Chesapeake Bay beaches and dunes, wetlands and coastal forest at the Savage Neck Natural Area Preserve.

USFWS COASTAL WETLANDS GRANT APPROVED

Natural Heritage received word that we have been awarded \$825,689 for the purchase of the Cloverdale tract as an addition to the Dameron Marsh Natural Area Preserve. The project ranked #16 in the nation of the 26 projects funded this year.

SMALL-ANTHERED BITTERCRESS 1999 STATUS SURVEY

The final report entitled "Status Survey for *Cardamine micranthera* Rollins (Small-Anthered Bittercress) in Virginia" was recently completed by DCR Natural Heritage botanists. Field surveys conducted for this federally listed (endangered) plant in April and May 1999 by DCR-DNH botanists almost doubled the known Virginia occurrences from 7 to 13 expanded population numbers in the known occurrences, and tripled the number of known plants in Virginia to an estimated 6000.

The global distribution of this G1/S1 plant, a member of the mustard family, is restricted to seepages and small streams in the Dan River drainage in the western Piedmont of Virginia and North Carolina. Streambank erosion, sedimentation, inundation by beaver damming, and competition from invasive alien species represent the most serious threats to this rarity.

RARE PLANT SPECIES FOUND AT COWBANE NATURAL AREA PRESERVE

During a recent visit to Cowbane Prairie Natural Area Preserve, the DNH Vegetation Ecologist discovered a large population of nannyberry (*Viburnum lentago*)(G5/S1) along the fenceline that forms the eastern boundary of the preserve. This species had been reported from the preserve several years ago, but this record had never been confirmed. Nannyberry is known from four counties in Virginia (Augusta, Giles, Highland and Page), and it is believed that in addition to Cowbane, there are only four other known extant populations of this species in the Commonwealth.

REGAL FRITILLARY MONITORING COMPLETED

The report entitled "Status survey for the regal fritillary (*Speyeria idalia*) in Virginia, 1999" provides details of the capture-mark-recapture study conducted by DCR-DNH zoologists during 1999. A total of 62 adult *S. idalia* (G3/S1) were captured at two sites during 1999. The report provides details on life history observations, movements between capture sites, and vegetative composition and structure at the two sites. An assessment of threats to the population, management recommendations, and suggestions for additional research were also included. The species has suffered drastic declines in the eastern portion of its range in the last three decades. Historically, it was known

from over 30 counties across the western portion of Virginia. However, there are now only two known sites in Virginia.

RARE SKIPPER SURVEYS COMPLETED

The final report entitled "Status Survey for the rare skipper (*Problema bulenta*) in Virginia, 1999" provides details on the reverification of this G2G3/S1 species at the previously known site on the Chickahominy River and the results of additional surveys in other river systems in eastern Virginia. The report also includes an assessment of threats to the known site and recommendations for future survey work. The rare skipper is known from only one site in Virginia, and is rare throughout its range from New Jersey to Georgia.

COLONIAL NATIONAL HISTORICAL PARK POND SURVEY

Natural Heritage biologists have completed the first year's work on the biological survey of the potential coastal plain depression ponds or "sinkhole ponds" within Colonial National Historical Park. Out of 35 potential ponds delineated by VIMS on an aerial photo and visited in 1999, only eight have been determined to be this rare and threatened seasonal wetland habitat. Botanical and zoological surveys were conducted, finding a wetland supporting Mabee's salamander (*Ambystoma mabeei*) (G4/S1S2), a state listed threatened amphibian known from ponds within the nearby Grafton Ponds complex.

No plant rarities have been found yet, but two watchlisted species *Eleocharis tenuis* var. *verrucosa* (slender spikerush)(G5T3T5/SU) and *Axonopus furcatus* (big carpet grass)(G5/S3) have been found in two adjacent small seasonal wetlands in a periodically mowed field. Biological surveys will continue in 2000 and plant communities of the undisturbed ponds will be classified.

WARM SPRINGS MOUNTAIN UPDATE

The Division of Natural Heritage presented "A Preliminary Natural Heritage Inventory of Warm Springs Mountain, Bath County, Virginia" to The Nature Conservancy and other conservation groups who are interested in protecting Warm

Springs Mountain in Bath County, Virginia. The report details 14 Natural Heritage Resources (3 rare plants, 8 rare animals, 3 significant natural communities) which were found during 1999 field work by DNH biologists, and recommends protection of an approximately 8,500-acre portion of Warm Springs Mountain based on the presence of these resources.

CONTRACT AWARDED FOR DRAGON RUN INVENTORY

The Division of Natural Heritage submitted a proposal to the BFI Dragon Run Environmental Fund Management Board to continue the Natural Heritage inventory on the Dragon Run on Virginia's Middle Peninsula. The Board unanimously voted to award the \$31,800 contract to DNH. Work will commence in 2000.

FLORISTIC INVENTORY AT JOHN H. KERR RESERVOIR

A floristic inventory of the vascular plant taxa on the Virginia lands managed by the US Army Corps of Engineers at Kerr Reservoir in Virginia's Southern Piedmont concluded the 1999 field season with specimens of approximately 950 taxa. This project began informally during the Kerr Reservoir Natural Heritage Inventory of 1997-1998, will continue in 2000, and will result in a report including a species list that will be finalized in 2001. Specimens will be deposited in the herbarium at George Mason University.

GRASSY HILLS DEDICATION CEREMONY

DCR worked with The Nature Conservancy and Ann Carter Lee Gravely of Rocky Mount to plan the Grassy Hills Natural Area Preserve Dedication ceremony. The ceremony was held in Rocky Mount on Friday September 24. Lunch was served at the home of Ann Carter Lee Gravely, a cousin of Charles Carter Lee and Alice Lee Melchor, the individuals who made a charitable gift sale and gift of land at Grassy Hill. A short hike on Grassy Hill followed lunch and dedication presentations by the speakers. Secretary of Natural Resources John Paul Woodley, Jr. and Department of Conservation and Recreation Director David G. Brickley attended the ceremony.

STEWARDSHIP STAFF INITIATE
COMPREHENSIVE INTERIOR MAPPING
EFFORT FOR NATURAL AREA
PRESERVES

The first steps toward creating an interactive management-oriented geographic information system (GIS) for the Virginia Natural Area Preserve System were initiated in two regions. Stewardship staff from the Mountain and Southeast Regions began the statewide project by delineating prescribed fire units using global positioning technology (GPS). The combined GIS/GPS effort will be instrumental in organizing management information and will also enable DNH staff to query and analyze spatially-linked data.

ZUNI PINE BARRENS MANAGEMENT
PLAN COMPLETED

A resource management plan has been completed for two state natural area preserves, Antioch Pines Natural Area Preserve and Blackwater Ecological Preserve, collectively known as the Zuni Pine Barrens. These two sites, located in Isle of Wight County along the Blackwater River in southeastern Virginia, are home to extremely rare plants, animals, and community types. Here, longleaf pine and other southern coastal plain species occur in one of the few remaining fire-maintained savanna/flatwoods/sandhill remnants in the state. The management plan, produced through the joint funding efforts of DCR, The Nature Conservancy, and Old Dominion University, will guide future stewardship of natural heritage resources at this unique site.

COWBANE PRAIRIE NATURAL AREA
PRESERVE RESTORATION

Restoration plans for Cowbane Prairie Natural Area Preserve are underway, with the completion of herbicide control work for the invasive shrub *Eleagnus umbellata*. Along with invasive species control, the reintroduction of fire to this wet prairie ecosystem will help promote native grasses and forbs over encroaching woody plants. Natural Heritage Stewardship staff coordinated the location of fire control lines and the development of a

prescribed fire plan. Burning is scheduled to commence within a year.

NATURAL COMMUNITIES MANAGEMENT
GUIDELINES COMPLETED

The DNH Stewardship Biologist has completed a final report entitled, "Rare Natural Communities Management Guidelines, Rare Plant Species Summary Information, and Rare Plant Species Matrix for Shenandoah National Park." This work was commissioned by the National Park Service (NPS) to assist park managers with implementing effective strategies for conserving natural heritage resources within NPS. The report will assist the management of such areas as Big Meadows.

CONSTRUCTION COMPLETED AT
PINNACLE NATURAL AREA PRESERVE

Phase II site improvement construction was completed at Pinnacle Natural Area Preserve in Russell County. The improvements consist of demolition and removal of two old structures, construction of a 16-space parking area with restroom facilities, and road widening for pull-off areas along Big Cedar Creek, a State Scenic River. The road to the Big Falls area has been converted to a hiking trail.

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